NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
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January 19, 2012

FILE

Ms. Mary Jo Roth
Manager, Environmental Services
Great River Energy
12300 Elm Creek Boulevard
Maple Grove, MN 55369-4718

Re: Coal Creek $NO_x$ BART Determination

Dear Ms. Roth:

This letter is a follow-up to our telephone call on January 10, 2012. As indicated, the Department has reviewed the report submitted by Great River Energy (GRE), on November 21, 2011 entitled "Coal Creek Station Units 1 and 2, Best Available Retrofit Technology Refined Analysis for $NO_x$ Emissions" (Revised $NO_x$ Report). The Department is in the process of re-evaluating its Best Available Retrofit Technology (BART) Determination for $NO_x$ from GRE's Coal Creek Station, as a result of errors found to exist in the BART-related submittals previously provided by GRE. The Department fully intends to exercise and preserve its regulatory discretion and authority with respect to its Regional Haze SIP. As such and in order for GRE to meet its obligations under North Dakota regulations, the Department requests GRE to promptly address the following issues with its Report:

1. The Coal Creek Station has a rating greater than 750 MW. Therefore, NDAC 33-15-25-03 requires that you comply with the requirements in EPA's BART Guidelines (40 CFR 51, Appendix Y). The BART Guidelines state "The baseline emissions rate should represent a realistic depiction of anticipated annual emissions for the source. In general, for the existing sources subject to BART, you will estimate the anticipated annual emissions based upon actual emissions from a baseline period." The Department requests that GRE include a review of the last five years of operation in GRE's analysis of baseline emissions (or heat input). If changes to the facility affect the historic baseline (such as DryFining™), please include an explanation of any adjustment in your analysis. All tables should provide a consistent baseline emission rate (see Table A-2 versus Tables A-1, A-4 to A-10).

2. GRE's Report included a document developed by Golder Associates entitled "Fly Ash Storage and Ammonia Mitigation Technology Evaluation" which states "Based on a review of the recent load profile of CCS, historic information on marketable fly ash at CCS, and an estimate of the reliability of the SNCR and ASM systems, approximately

30% of the fly ash now sent to the sales silos is assumed to have ammonia concentrations which make it untreatable if an SNCR system is installed." The Eastlake Station also uses an ammonia slip mitigation (ASM) system and only 15% is untreatable. The Department understands that the Eastlake Station is able to blend ammoniated ash with ash that does not contains ammonia; an option that will not be available to the Coal Creek Station. In order for the Department to further evaluate the Report, please confirm and more fully explain this and any other differences between Coal Creek Station's operation and Eastlake Station's operation in order to evaluate GRE's 30% untreatable ash figure.

3. In Table 3.1, Cost Summary, the "Annualized Operating Cost" for Unit 1 SNCR + LNC3+ (30% lost ash sales) is listed at $6.81 million. However, Table A-1 lists $7.62 million for this scenario. Further, there are also inconsistent annualized operating costs in Table 3.1 versus Table A-1 for Unit 1 SNCR (30% lost ash sales) and Unit 2 SNCR (30% lost ash sales). Please address these inconsistencies.

4. The "Pollution Control Cost" in Table 3.1 and Table A-1 for all three scenarios of Unit 1 SNCR + LNC3+ do not appear to be correct. Please evaluate these asserted costs and correct as may be necessary, including with respect to the asserted incremental costs.

5. In Table A-6 and A-9 of the Report,

   a. A project contingency of 42% and 41% are listed, respectively. However, it appears GRE actually used 15% (which is consistent with EPA's Control Cost Manual). The 42% and 41% should be revised. This is also an issue with other tables in GRE's Report. Please evaluate these considerations and address any errors or mislabeling.

   b. The cost for "SW Disposal" is not consistent with the cost separately listed in Table 2.3.2 and the Golder Report. Given the inconsistency, please verify which number is correct and revise the Report to reflect this correction.

   c. The cost of "Lost Ash Sales" is inconsistent with Table 2.3.4 and the Golder Report. Given the inconsistency, please verify which number is correct and revise the Report to reflect this correction.

6. In order to be technically complete, GRE must provide a detailed explanation of Table 3.3.1, Visibility Improvement.

   a. Unit 1 has a baseline emission rate in Table 3.1 of 0.20 lb/$10^6$ Btu (annual average). Table 3.3.1 lists a 24-hr maximum emission rate of 0.20 lb/$10^6$ Btu. A 24-hr maximum emission rate should be larger than an annual average emission rate.

   b. The "Avg. Improvement" column indicates improvement for baseline conditions. Under the BART Guidelines, no improvement would be shown for baseline conditions.

c. The amount of improvement should be based on three years of meteorological data. The results from all three years must be submitted. Please explain whether it represent a 98th percentile value or some other value.

7. The Department appreciates GRE's prompt attention to the issues noted above and also suggests GRE closely review all tables and text for accuracy and consistency with the supporting documents.

The Department requests that GRE provide a revised Report no later than February 20, 2012.

If you have any questions, please contact Tom Bachman of my staff at (701)328-5188.

Sincerely,

Terry L. O'Clair, P.E.
Director
Division of Air Quality

TLO/TB:saj
xc: Carl Daly, EPA
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